A Quick Beginner's Guide to HTML

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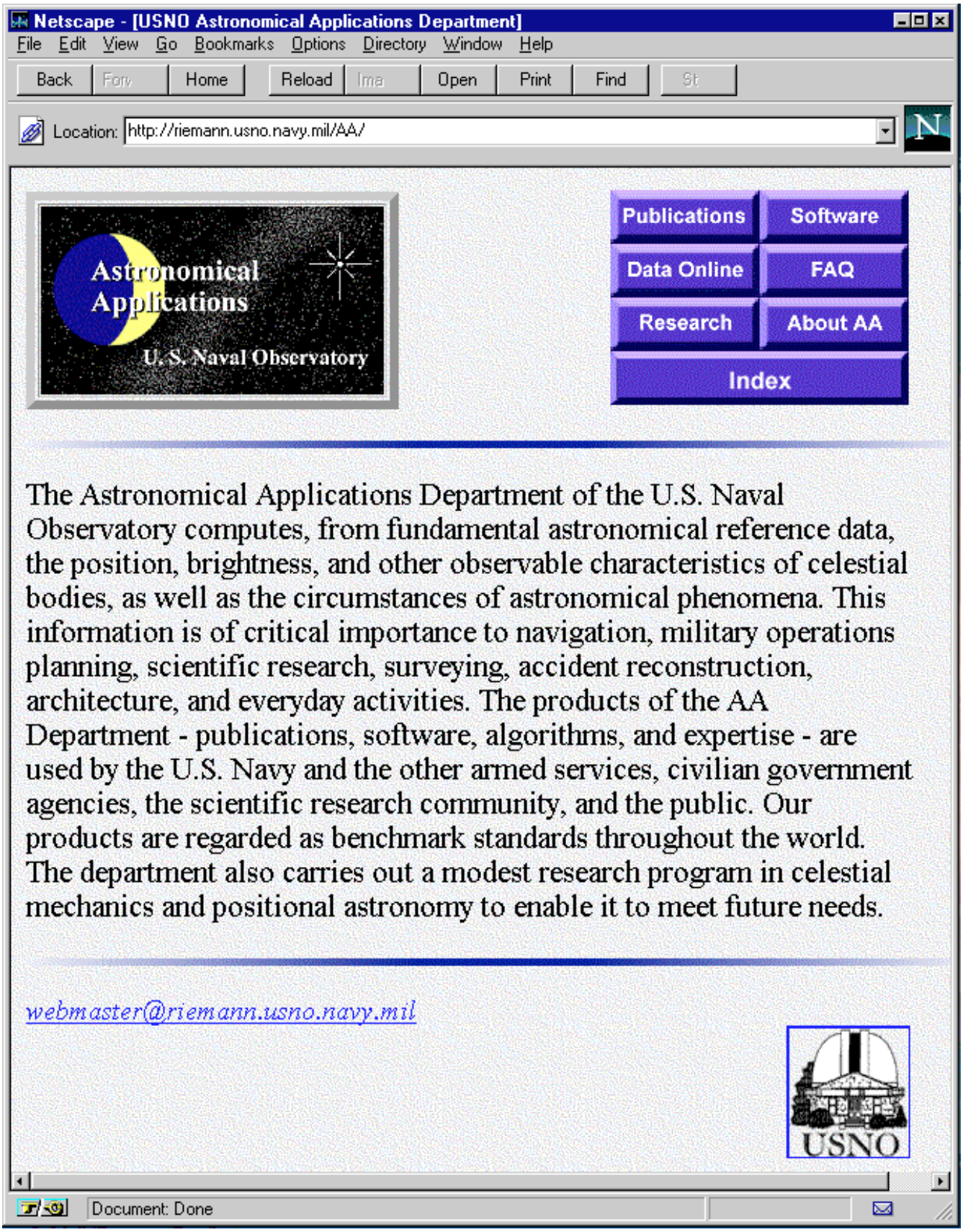
Browser Basics

- The Client/Server relationship
  - "Client" = your browser.
  - "Server" = the software package (like WebSite) that lives on a server (remote) machine and "serves" files to the client.
  - Clicking on a hyperlink generates a request for that document from the server.
- The browser cache

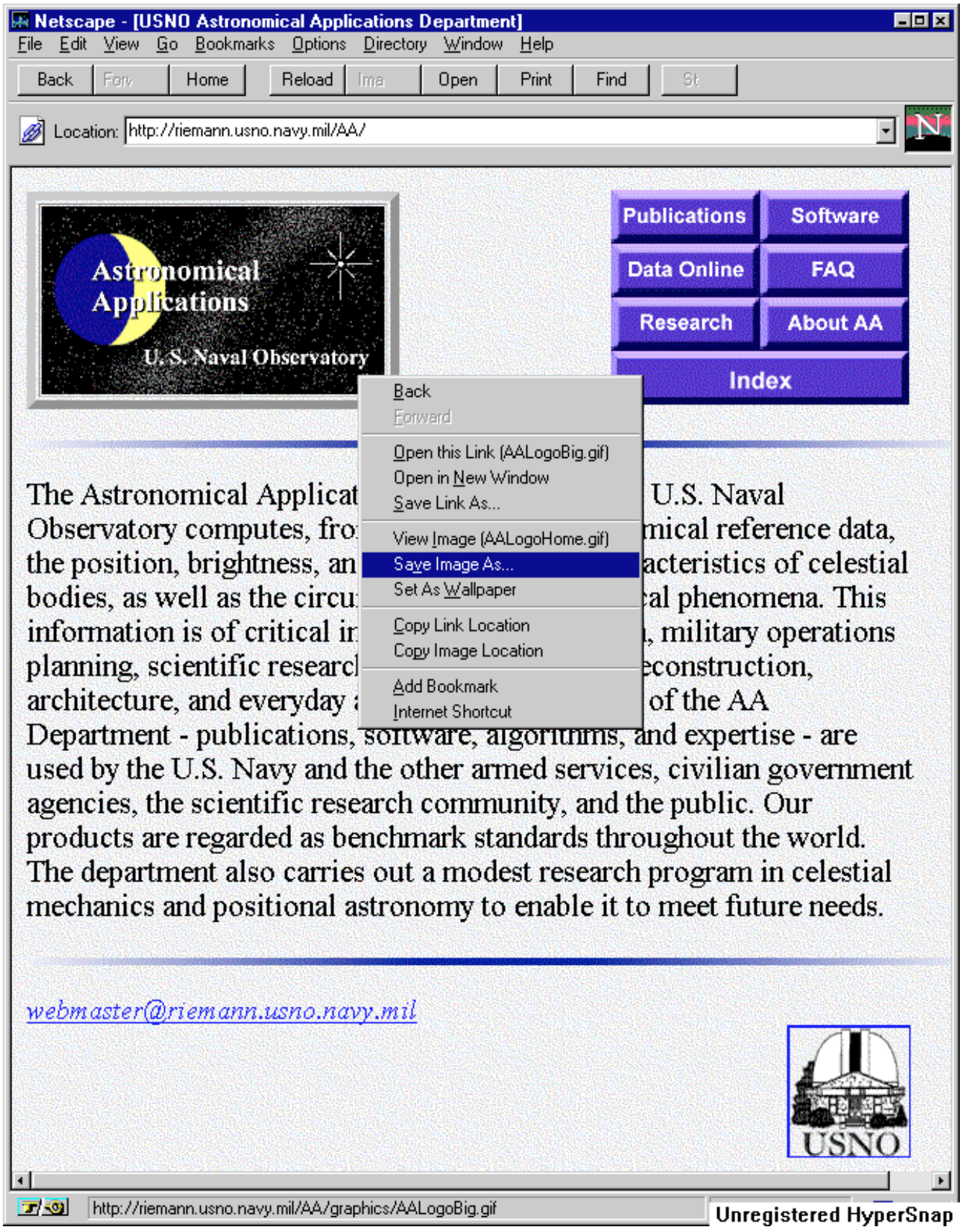
Browser Basics (continued)



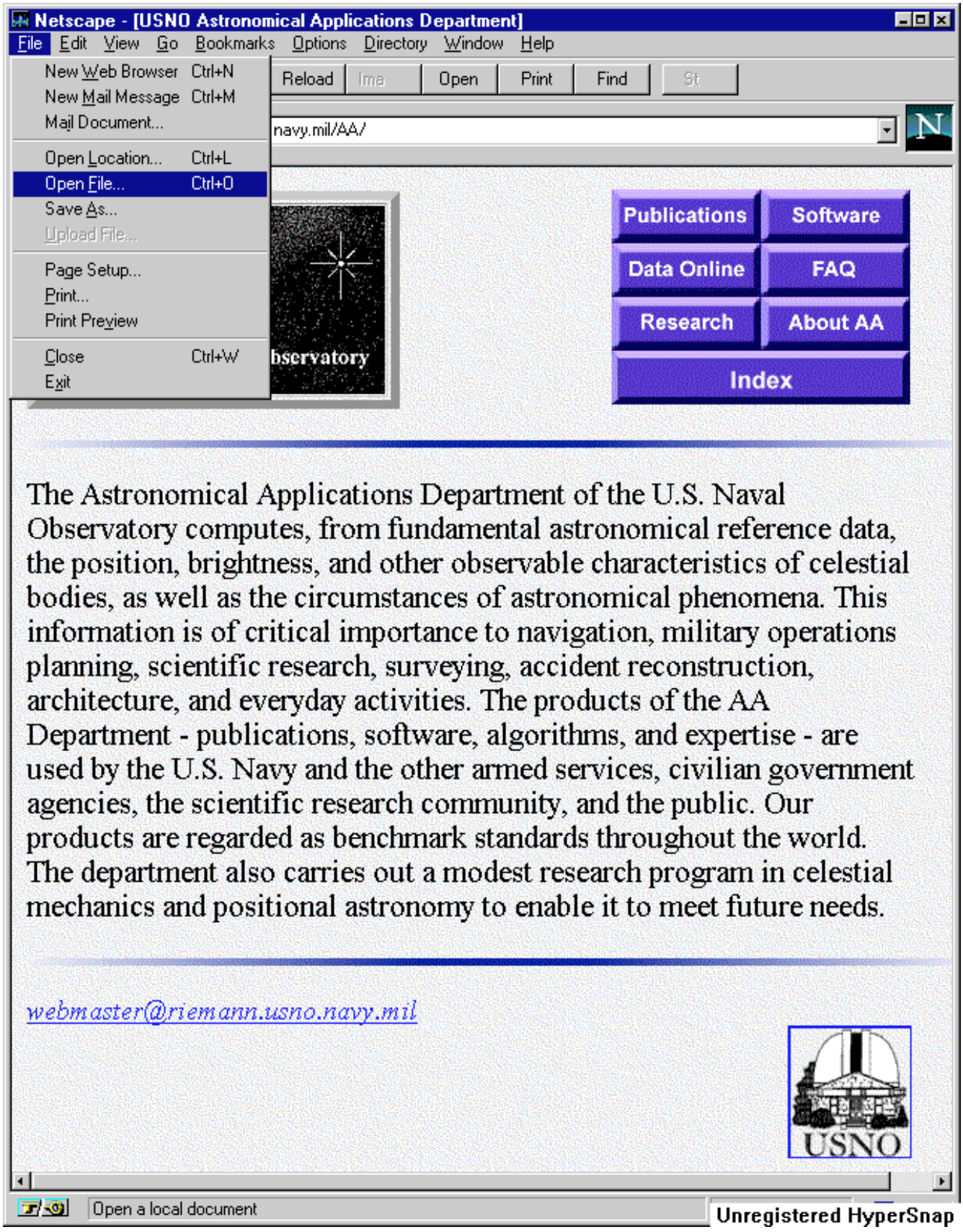
Browser Basics (continued)

- Nifty Tricks
  - the back button.
  - the reload button.
  - right-click popup menus
    - save a graphic to a local file on your machine
    - add a bookmark
  - stealing cool graphics
  - view source: Stealing cool HTML, or How'd they do that?
  - open a local file

Browser Basics (continued)



Browser Basics (continued)



What is HTML?

- Hypertext
  - Links
- Markup
  - It's the structure, stupid!
  - Appearance is not of great concern.
  - As opposed to *formatting* languages, like postscript or RTF.
  - Whitespace is ignored! (Except in a <pre>...</pre> block.)

What is HTML? (continued)

- URL = Universal Resource Locator
  - http (hypertext transfer protocol)
    http://www.whatever.com/
  - ftp (file transfer protocol)
    ftp://some.machine.somewhere/
  - gopher
    gopher://another.machine.somewhere/
  - file
    file:///d|/somedir/subdir/filename.html
  - email
    mailto:hooha@wacky.duck.edu

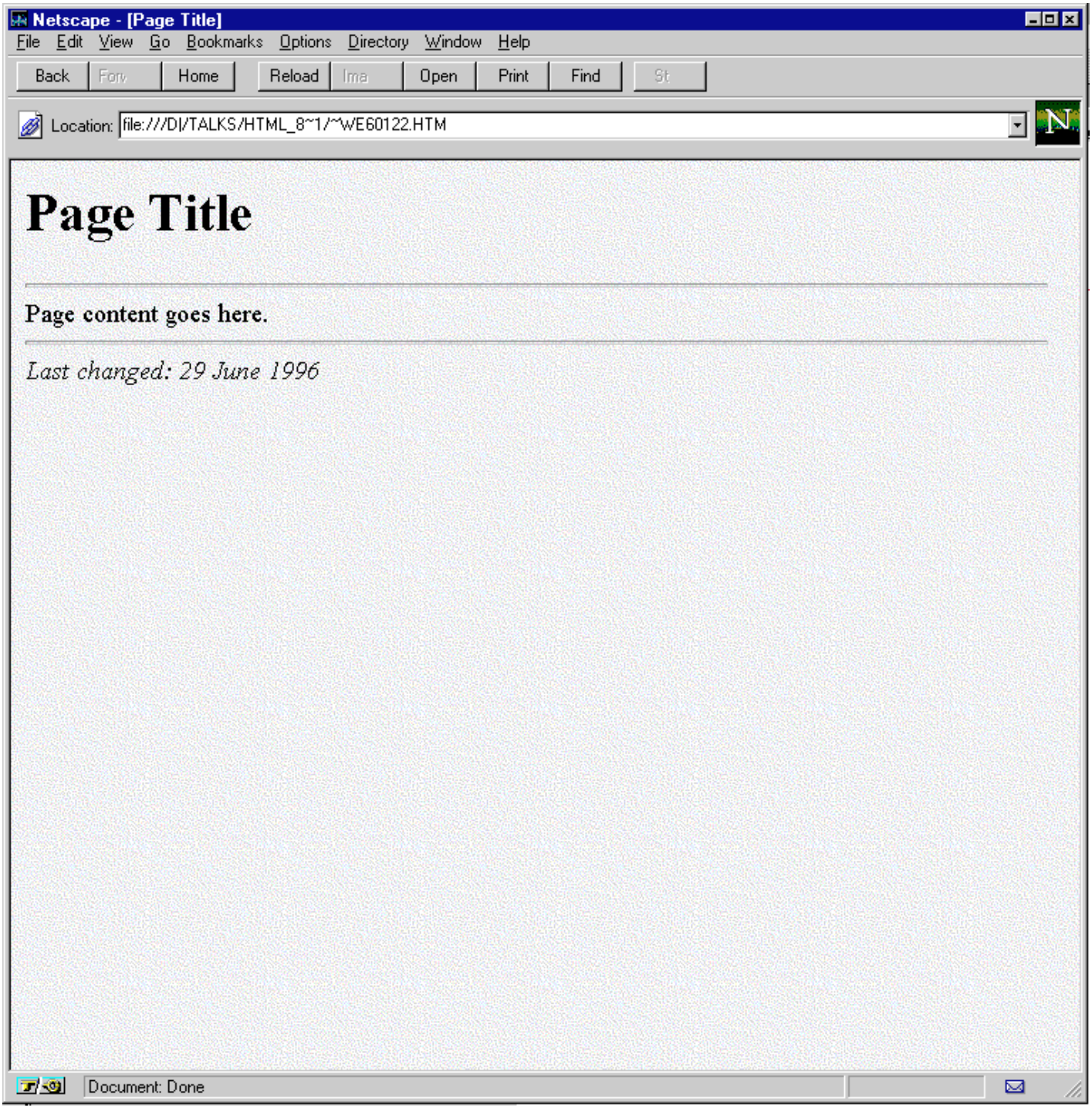
Basic HTML Document Parts

- Declare the document as HTML
  - <HTML> ... </HTML>
- The Heading
  - <head>
    <title>
    My Page!
    </title>
    </head>
  - Your document title is pretty much the only thing that goes in the "head" section.
- The Body
  - <body> ... </body>
  - This is where all the action is!

A Basic HTML Document

```
<html>

<head>
<title>
    Page Title
</title>
</head>

<body background="http://riemann.usno.navy.mil/murison/pics/bkg.jpg">
<basefont size=3>

<h1>Page Title</h1>
<hr>

Page content goes here.

<hr>

<i>Last changed:  29 June 1996</i>

</body>

</html>
```

A Basic HTML Document



Basic HTML Tags – document structure

- Document structure tags
  - <html> ... </html>
  - <head> ... </head>
  - <title> ... </title>
  - <body> ... </body>
    - background – page background image
    - bgcolor – page background color
    - text – normal text color
    - link – link color
    - vlink – visited link color
    - alink – active link color
    - Example:

```
<body background="http://riemann.usno.navy.mil/pics/bkg.jpg"
  text="#000000" link="#0000C0" vlink="#800000"
  alink="#FF0000">
```

Basic HTML Tags – document structure

- <base> ... </base>
  - Useful for
    - relative addressing of links
    - losing the frames when going to an outside link
  - Example:

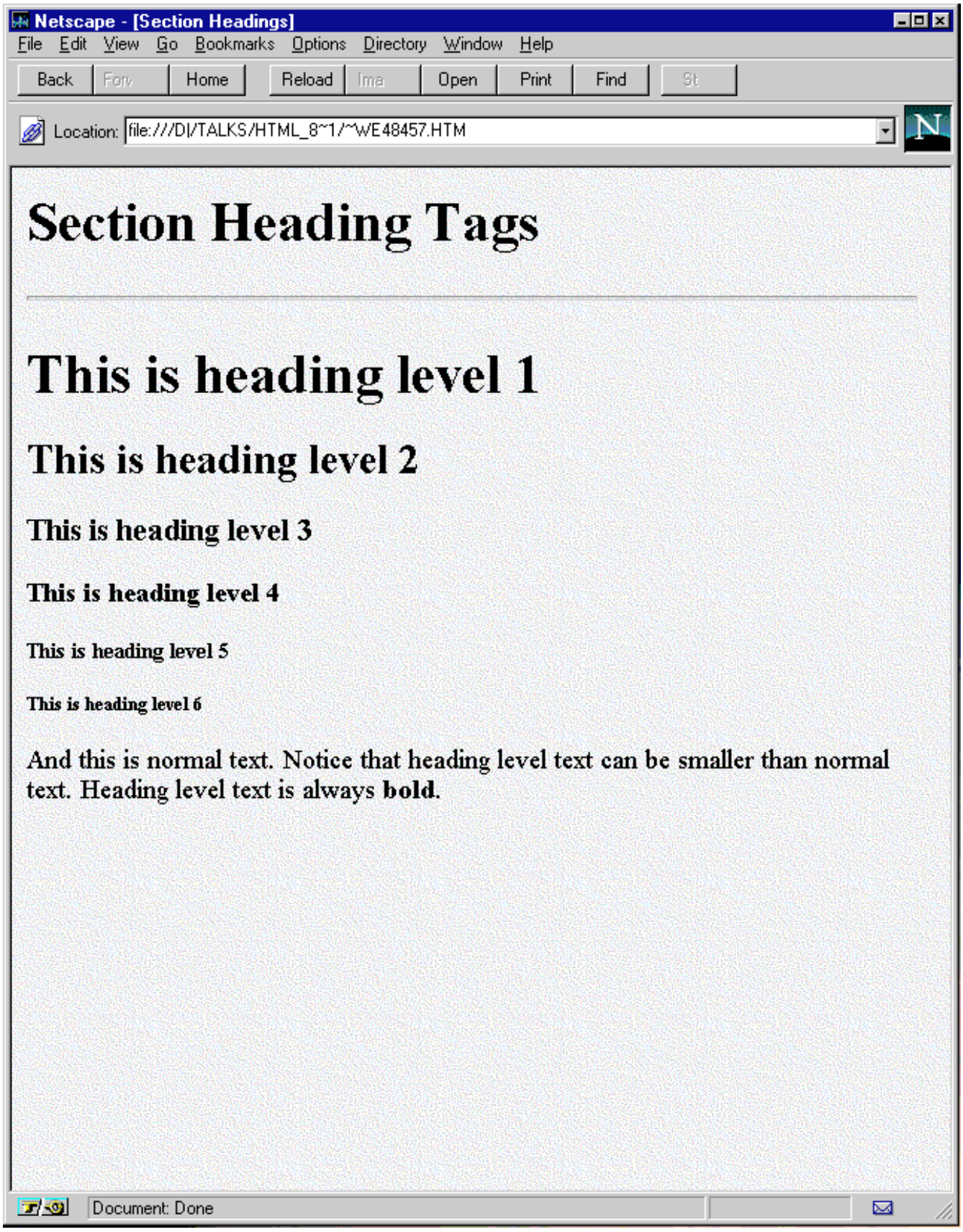
```
<base
  href="http://riemann.usno.navy.mil/AA/Joe/"
  target="_top">
```

Basic HTML Tags – section headings

- Section heading tags – an example:

```
<html>
<head>
<title>
    Section Headings
</title>
</head>
<body background="http://riemann.usno.navy.mil/murison/pics/bkg.jpg">

<h1>Section Heading Tags</h1>
<hr>
<h1>This is heading level 1</h1>
<h2>This is heading level 2</h2>
<h3>This is heading level 3</h3>
<h4>This is heading level 4</h4>
<h5>This is heading level 5</h5>
<h6>This is heading level 6</h6>
And this is normal text.  Notice that heading level text can be
smaller than normal text.  Heading level text is always  <b>bold</b>.

</body>
</html>
```

Basic HTML Tags – section headings



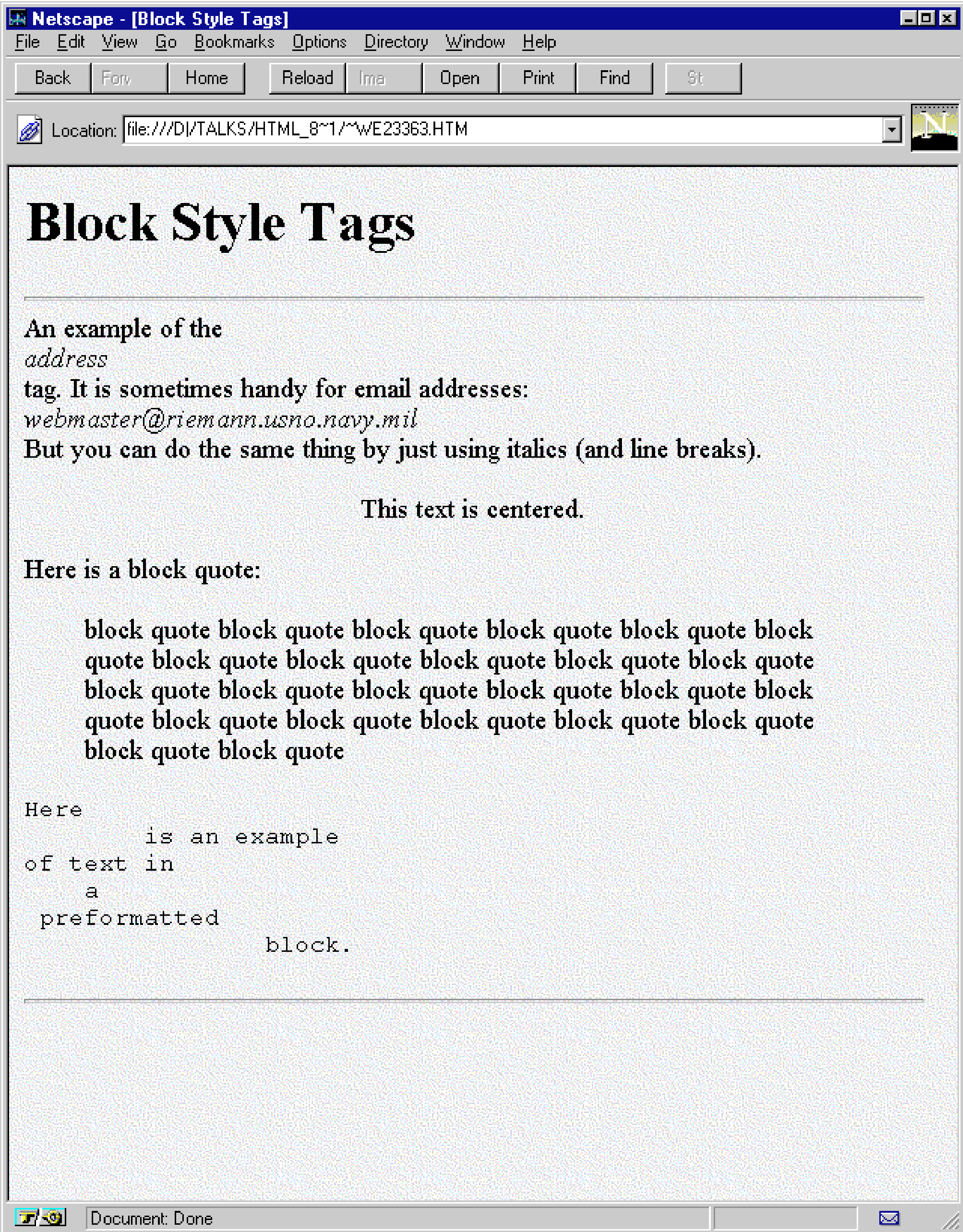
Basic HTML Tags – block style

- Block style tags
  - address <address> ... </address>
  - centered text ...
  - block quote <blockquote> ... </blockquote>
  - preformatted text <pre> ... </pre>

Basic HTML Tags – block style

```
<html>
<head>
<title>
      Block Style Tags
</title>
</head>
<body background="http://riemann.usno.navy.mil/murison/pics/bkg.jpg">

<h1>Block Style Tags</h1>
<hr>

An example of the <address>address</address> tag.  It is sometimes handy for email
addresses: <address>webmaster@riemann.usno.navy.mil</address>
But you can do the same thing by just using italics (and line breaks).
<p>
<center>This text is centered.</center>
<p>
Here is a block quote:
<blockquote>
block quote block quote block quote block quote block quote block quote block quote block
quote block quote block quote block quote block quote block quote block quote block quote
block quote block quote block quote block quote block quote block quote block quote block
quote block quote
</blockquote>
<p>
<pre>
Here
      is an example
of text in
   a
 preformatted
            block.
</pre>

<hr>

</body>
</html>
```

Basic HTML Tags – block style



Basic HTML Tags – layout

- Layout tags
  - paragraph <p>
  - line break
  - no break <nobr> ... </nobr>
  - horizontal rule <hr>
  - comment <!-- ... -->

Basic HTML Tags – font style

- Font style tags
  - bold ...
  - italic ...
  - underline <u> ... </u>
  - superscript ^{...}
  - subscript _{...}
  - font characteristics ...
    - size
    - color

Basic HTML Tags – font style & layout

```
<html>
<head>
<title>
      Layout and Font Style Tags
</title>
</head>
<body bgcolor=silver>

<h1>Layout and Font Style Tags</h1>
<hr>
The line above is a horizontal rule.  Here <br> is a line break.
<p>
<nobr>
Here is repeated text enclosed in a &lt;nobr&gt; ... &lt;/nobr&gt; block. Here is repeated text
enclosed in a &lt;nobr&gt; ... &lt;/nobr&gt; block.
</nobr>
<p>
<!-- This is a comment.  It will not show up in the browser. -->

Here are some font tricks: <br>
<b>BOLD</b> <br>
<i>Italicized</i> <br>
<u>Underlined</u> <br>
A<sup>superscript</sup> and A<sub>subscript</sub>. <br>
<p>
You can <font size=+2>increase</font> and <font size=-2>decrease</font> the font size.
<p>
<font size=+1>
<font color="CYAN">You</font> <font color="BLUE">can</font> <font
color="FUCHSIA">play</font> <font color="GREEN">with</font> <font
color="RED">text</font> <font color="YELLOW">color</font>, <font
color="WHITE">too</font>.
</font>
<p>
Notice that I've been using &lt;p&gt; for paragraphs.
<hr>

</body>
</html>
```

Basic HTML Tags – font style & layout

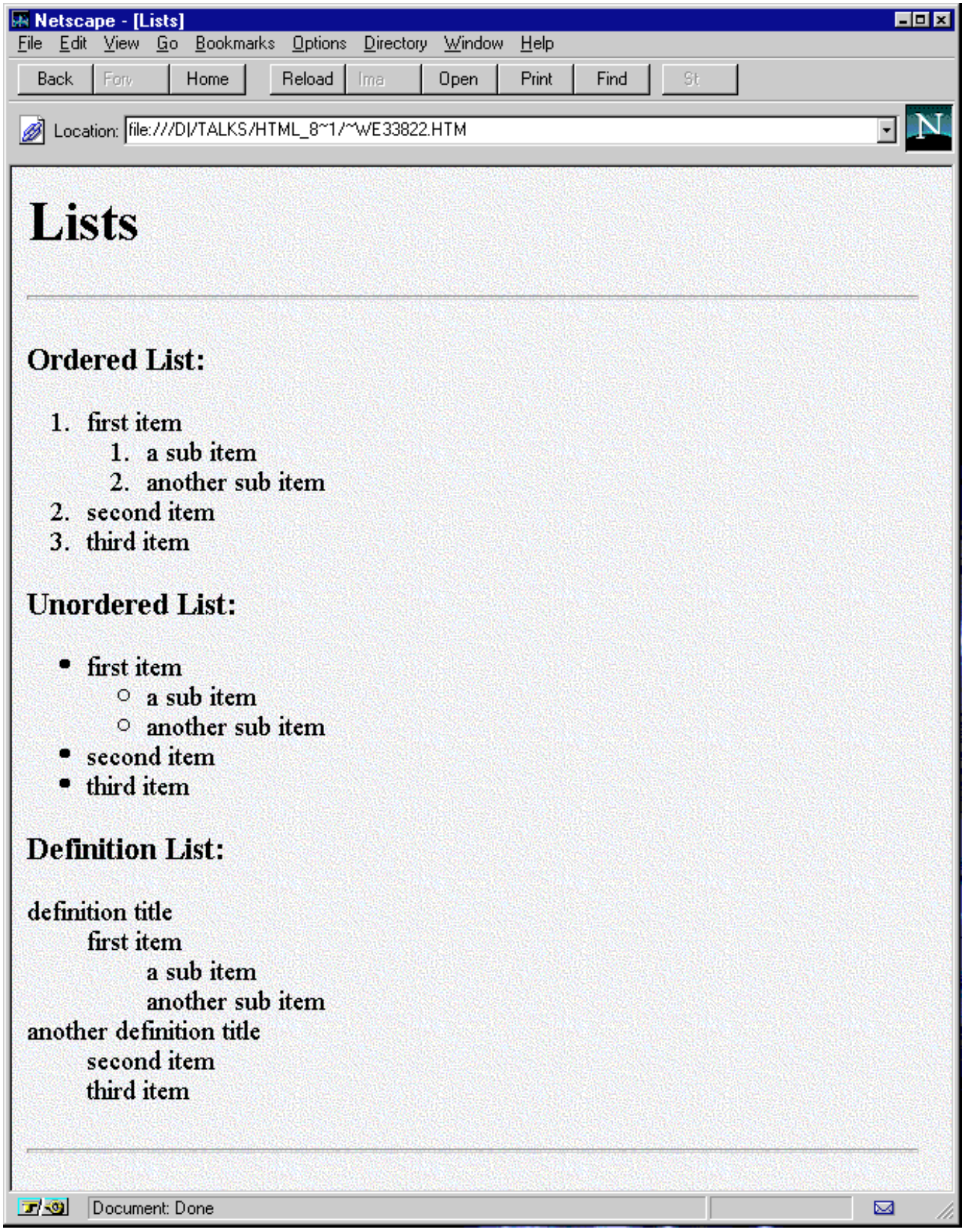
Basic HTML Tags – lists

- Lists
  - Ordered list tags
    - list declaration <ol> ...
    - list item
  - Unordered list tags
    - list declaration <ul> ...
    - list item
  - Definition list tags
    - list declaration <dl> ... </dl>
    - definition title <dt>
    - definition item <dd>

Basic HTML Tags – lists

```
<html>
<head>
<title>
        Lists
</title>
</head>
<body background="http://riemann.usno.navy.mil/murison/pics/bkg.jpg">

<h1>Lists</h1>
<hr>
<h3>Ordered List:</h3>
<ol>
<li>first item
   <ol>
   <li>a sub item
   <li>another sub item
   </ol>
<li>second item
<li>third item
</ol>

<h3>Unordered List:</h3>
<ul>
<li>first item
   <ul>
   <li>a sub item
   <li>another sub item
   </ul>
<li>second item
<li>third item
</ul>

<h3>Definition List:</h3>
<dl>
<dt>definition title
<dd>first item
   <dl>
   <dd>a sub item
   <dd>another sub item
   </dl>
<dt>another definition title
<dd>second item
<dd>third item
</dl>
<hr>
</body>
</html>
```

Basic HTML Tags – lists



Basic HTML Tags – anchors

- Anchors, or How do I make a link?
- Basic anchor format:
  link or anchor text
- Attributes:
  - name – specifies a destination tag (i.e., an anchor within a document)
  - href – specifies a URL to jump to
- Example:

```
<a href="http://riemann.usno.navy.mil/AA/">
  link to AA homepage
</a>
```

Basic HTML Tags – inline images

- Inline images <img attribute=" ">
- Attributes:
  - src – graphics source file (URL)
  - alt – "alternate" text
  - align – alignment wrt adjacent text
  - width – width of image
  - height – height of image
  - border – image border thickness
  - units – size units (defaults to pixels)
- Example:

```
<IMG
 src="http://riemann.usno.navy.mil/murison/pics/btn_email.jpg"
 alt="alternate text" align=left width=100 height=200 border=3
 units=pixels>
```

Basic HTML Tags – anchors & images

```
<html>
<head>
<title>
      Anchors & Images
</title>
</head>
<body background="http://riemann.usno.navy.mil/murison/pics/bkg.jpg">

<h1>Anchors & Images</h1>
<hr>
Clicking on <a href="http://riemann.usno.navy.mil/murison/">this text</a> will
send you to my home page.  For an example of how to use
&lt;a name=" "&gt; ... &lt;/a&gt;,
take a look at the HTML source for my resume page, which lives
<a href="http://riemann.usno.navy.mil/murison/resume/mamcv.html">here</a>.
<p>
Here is a simple inline image:
<img src="http://riemann.usno.navy.mil/murison/pics/btn_email.jpg"
 alt="email button">
<br>
It doesn't do anything.  By default, there is no border.
<p>
However, you can use an image as a link, like this:
<a href="http://riemann.usno.navy.mil/murison/">
 <IMG src="http://riemann.usno.navy.mil/murison/pics/Java.jpg"
  alt="Don't mess with my coffee!"
  border=3 width=270 height=283 units=pixels></A>
<br>
Notice the picture has a border.  Clicking on the picture will send you to my
home page.
<hr>
</body>
</html>
```

Basic HTML Tags – anchors & images

Netscape - [Anchors & Images]

File Edit View Go Bookmarks Options Directory Window Help

Back Forv Home Reload Ima Open Print Find St

Location: file:///C|/WINAPPS/WEBEDIT/~WE08320.HTM

Anchors & Images

Clicking on this text will send you to my home page. For an example of how to use ... , take a look at the HTML source for my resume page, which lives here.

Here is a simple inline image: email
It doesn't do anything. By default, there is no border.

However, you can use an image as a link, like this:

Notice the picture has a border. Clicking on the picture will send you to my home page.

Document: Done

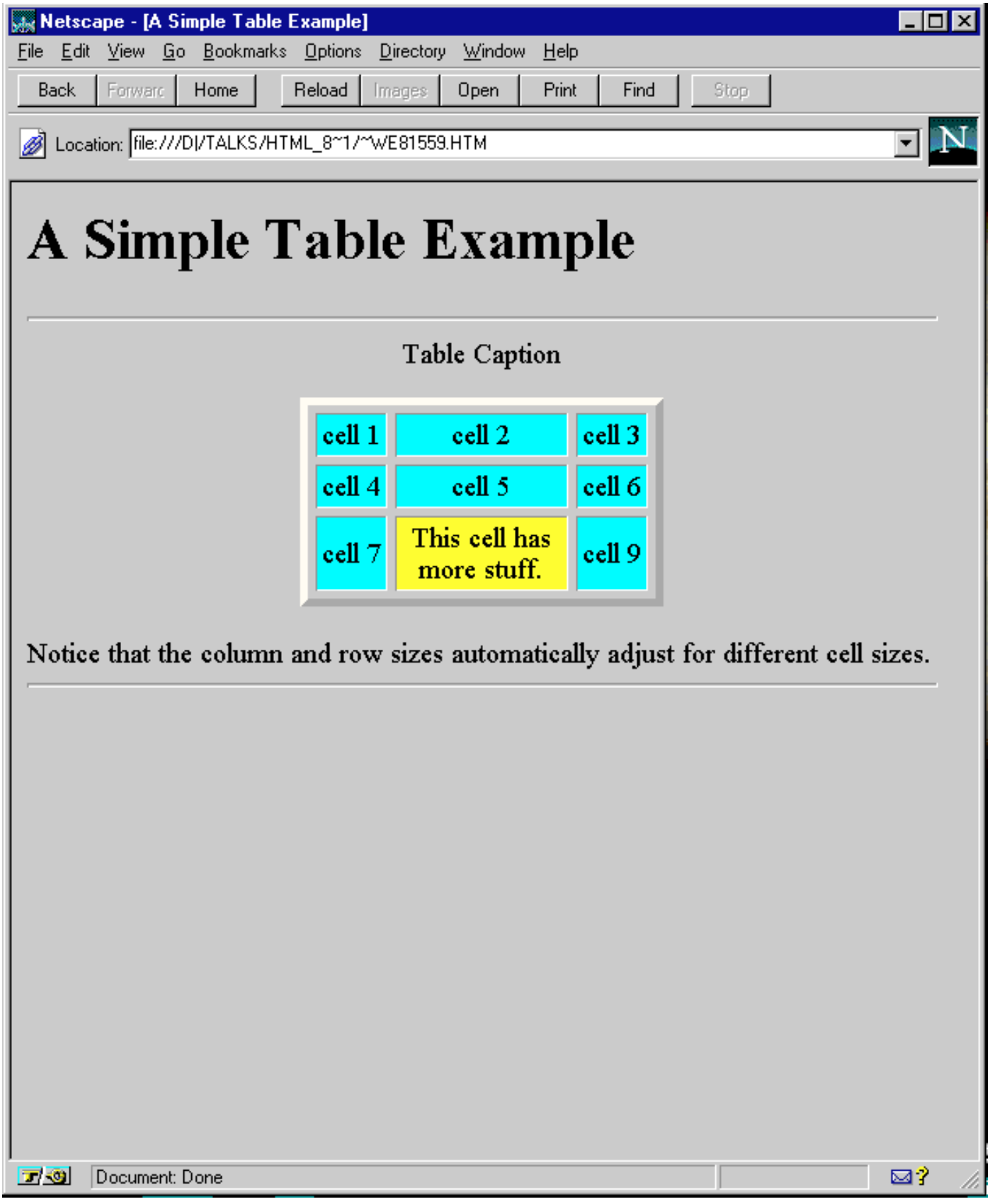
Basic HTML Tags – tables

- Table tags
  - Table declaration <table> ... </table>
    - Attributes: width, align, border, cellpadding, cellspacing, colspec, bgcolor
  - Table caption <caption> ... </caption>
  - Table row <tr> ... </tr>
    - Attributes: align, valign, bgcolor
  - Table data <td> ... </td>
    - Attributes: align, valign, colspan, rowspan, width, nowrap, bgcolor

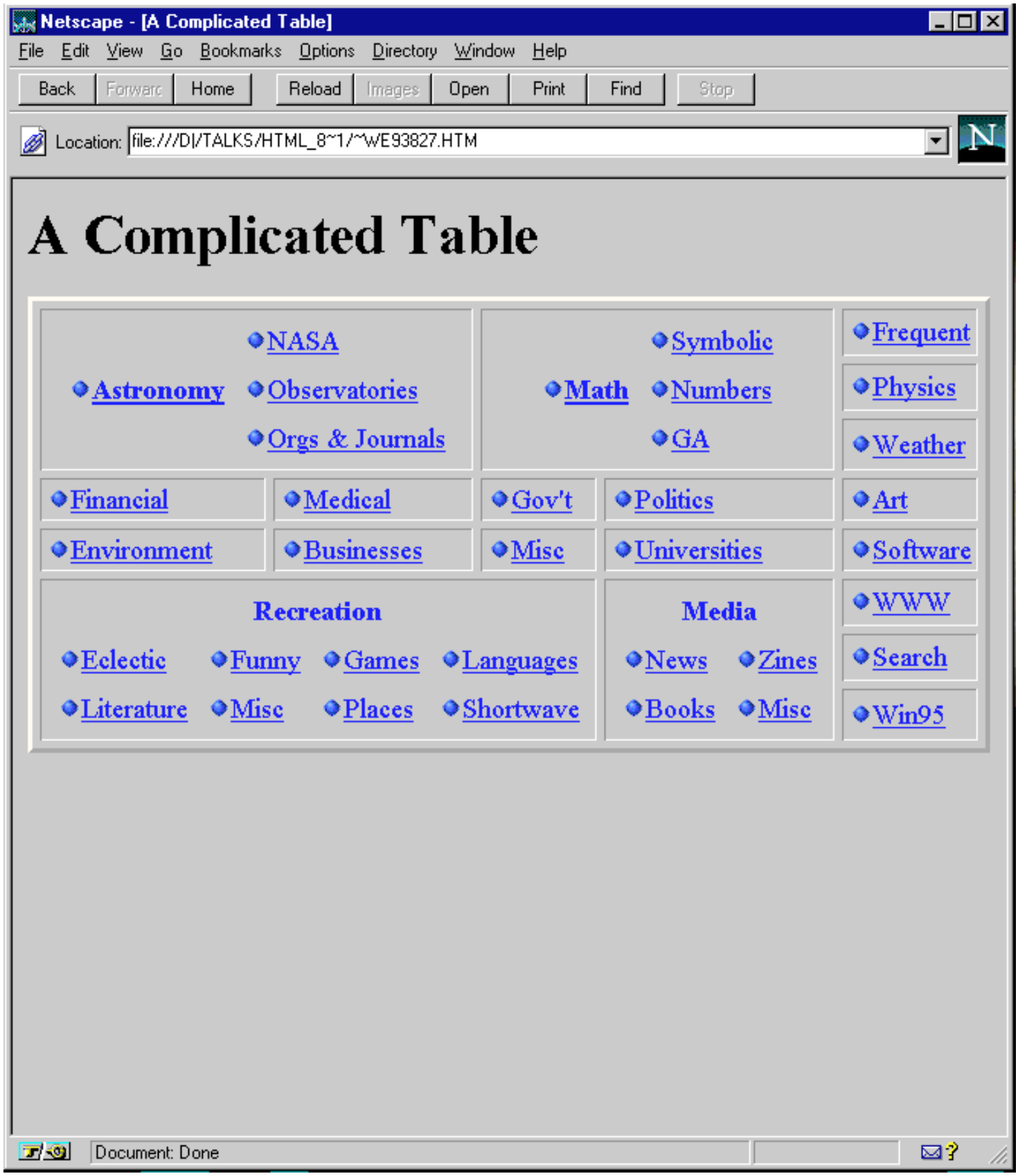
Basic HTML Tags – tables

```
<html>
<head>
<title>
      A Simple Table Example
</title>
</head>
<body bgcolor=silver>
<h1>A Simple Table Example</h1>
<hr>
<center>
<table width=40% align=center border=5 cellpadding=3 cellspacing=5
  bgcolor=cyan>
<caption align=top>Table Caption</caption>
<tr align=center>
      <td>cell 1</td>
      <td>cell 2</td>
      <td>cell 3</td>
</tr>
<tr align=center>
      <td>cell 4</td>
      <td>cell 5</td>
      <td>cell 6</td>
</tr>
<tr align=center>
      <td>cell 7</td>
      <td bgcolor=yellow>This cell has more stuff.</td>
      <td>cell 9</td>
</tr>
</table>
</center>
<p>
Notice that the column and row sizes automatically adjust for different cell sizes.
<hr>
</body>
</html>
```

Basic HTML Tags – tables



Basic HTML Tags – tables



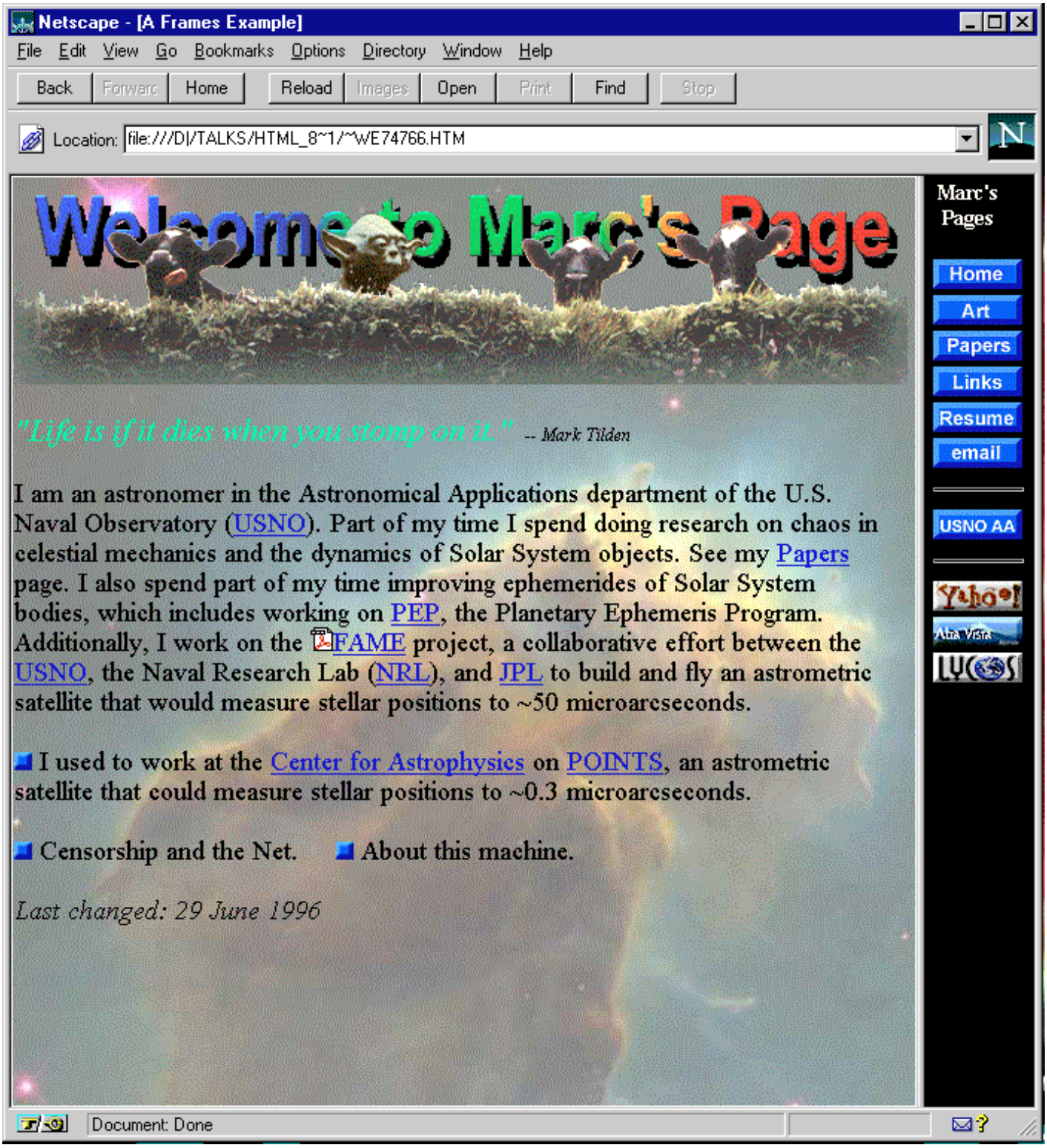
Basic HTML Tags – frames

- Frame tags
  - Declare a set of frames:
    <frameset> ... </frameset>
    - Attributes:
      - cols – specify frame columns
      - rows – specify frame rows
  - Declare a frame: <frame> ... </frame>
    - Attributes:
      - name – assign a name to a frame so it can be targeted by links in other documents
      - marginwidth – specify margin width
      - marginheight – specify margin height
      - scrolling – "no", "yes", or "auto"
      - noresize – do not allow user to resize frame
  - You can nest framesets.

Basic HTML Tags – frames

```
<html>
<head>
<title>
     A Frames Example
</title>
</head>

<frameset cols=*,78>
    <frame src="http://riemann.usno.navy.mil/murison/mainpage.html"
      name="Home Page" scrolling=Auto MarginWidth=1
      MarginHeight=1>
    <frame src="http://riemann.usno.navy.mil/murison/navigate.html"
      name="Navigation Buttons" scrolling=Auto MarginWidth=1
      MarginHeight=1>
</frameset>

<noframes>
<h3>Your browser does not support frames!</h3>
</noframes>

</body>
</html>
```

Basic HTML Tags – frames



A Few Rules for Writing Good HTML

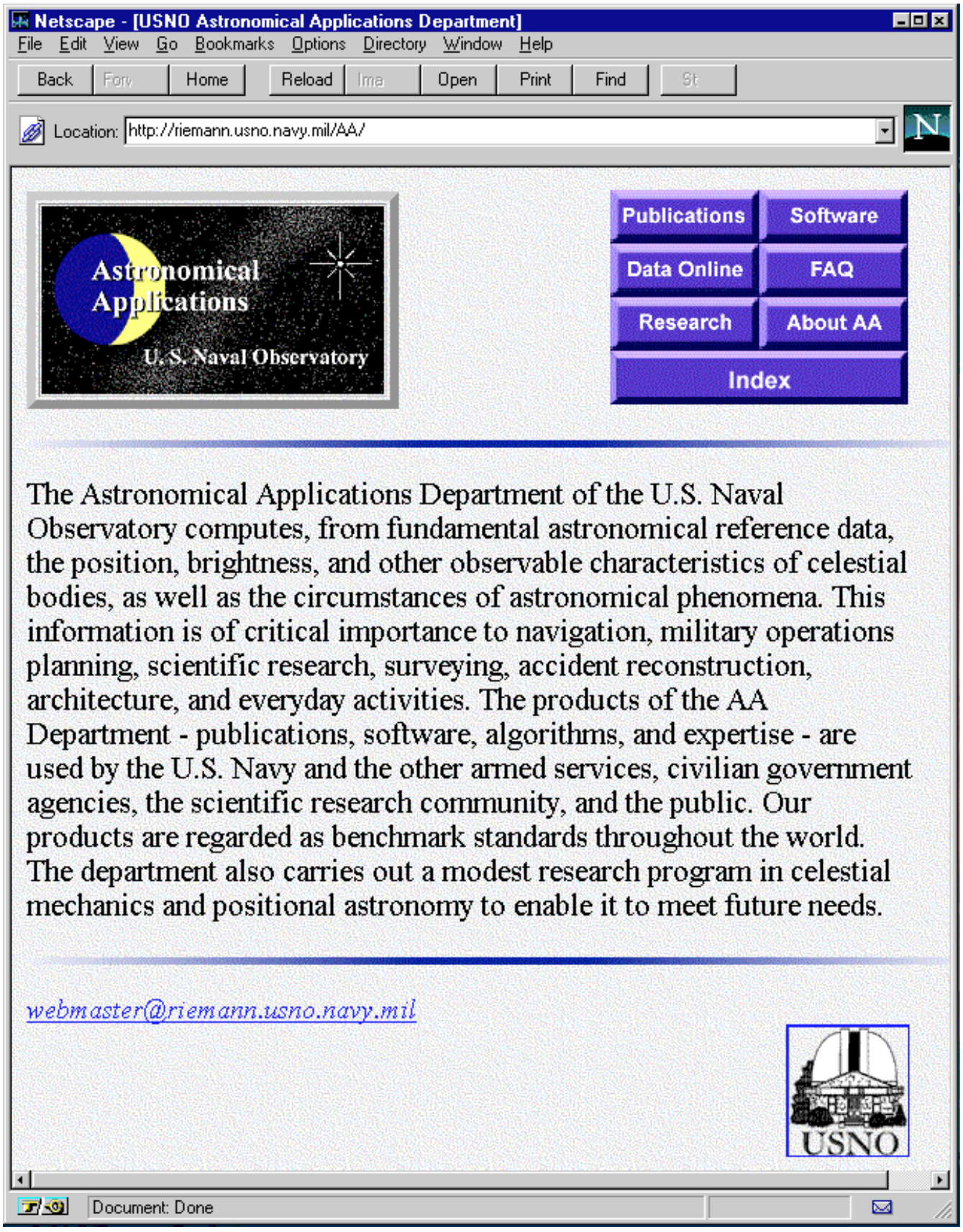
- **Browse the web!**

  "A good artist imitates. Truly great artists *steal.*"

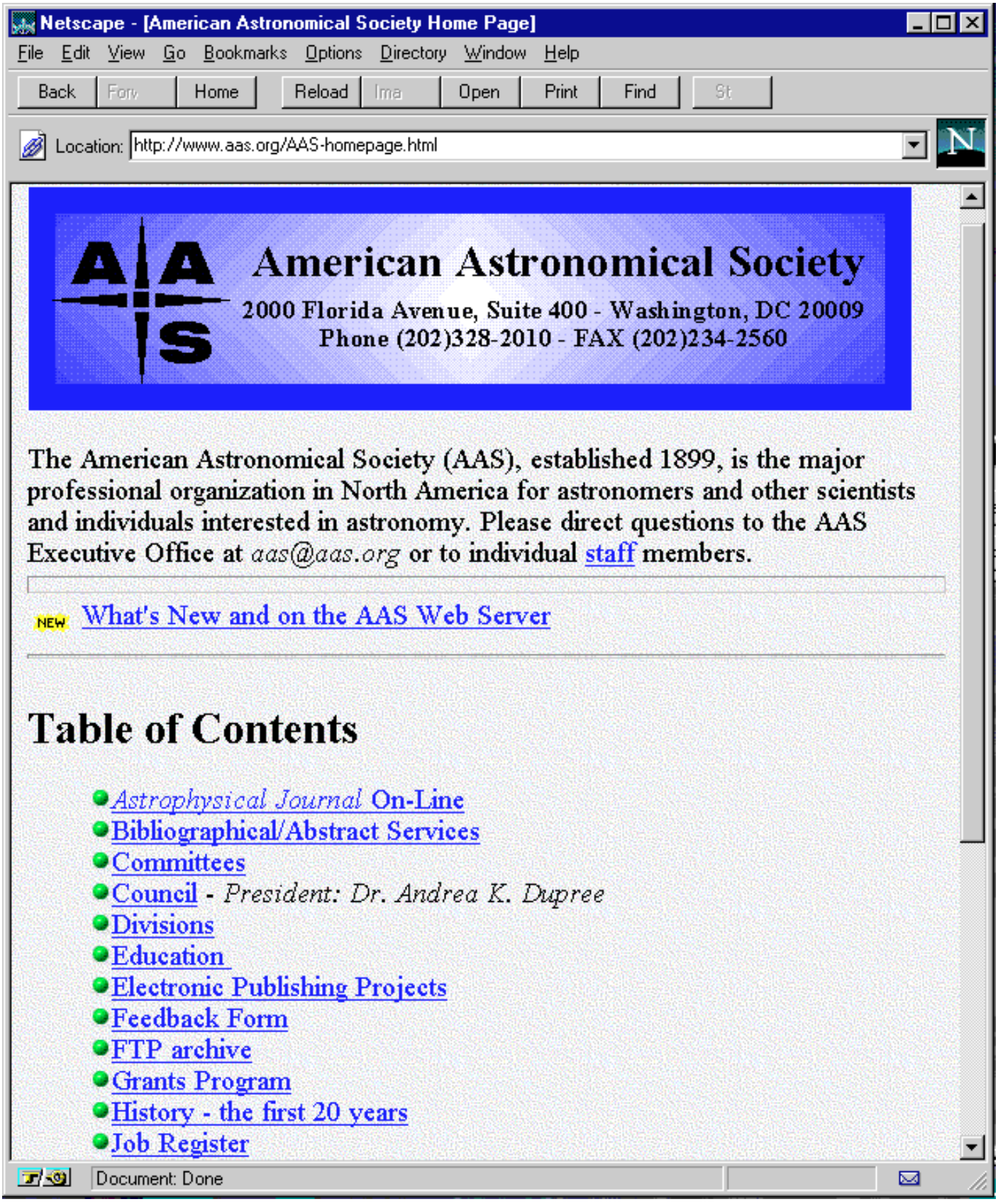
  – Picasso

- Go easy on the graphics and the colors.
- Use a "boring" background.
- No blinking text!
- No animated images!
- Use a consistent "look and feel" for all your pages.
- Plan your hierarchy ahead of time. Organize carefully.
- Keep the search indexes in mind.
- **Test your pages before you publish them!**

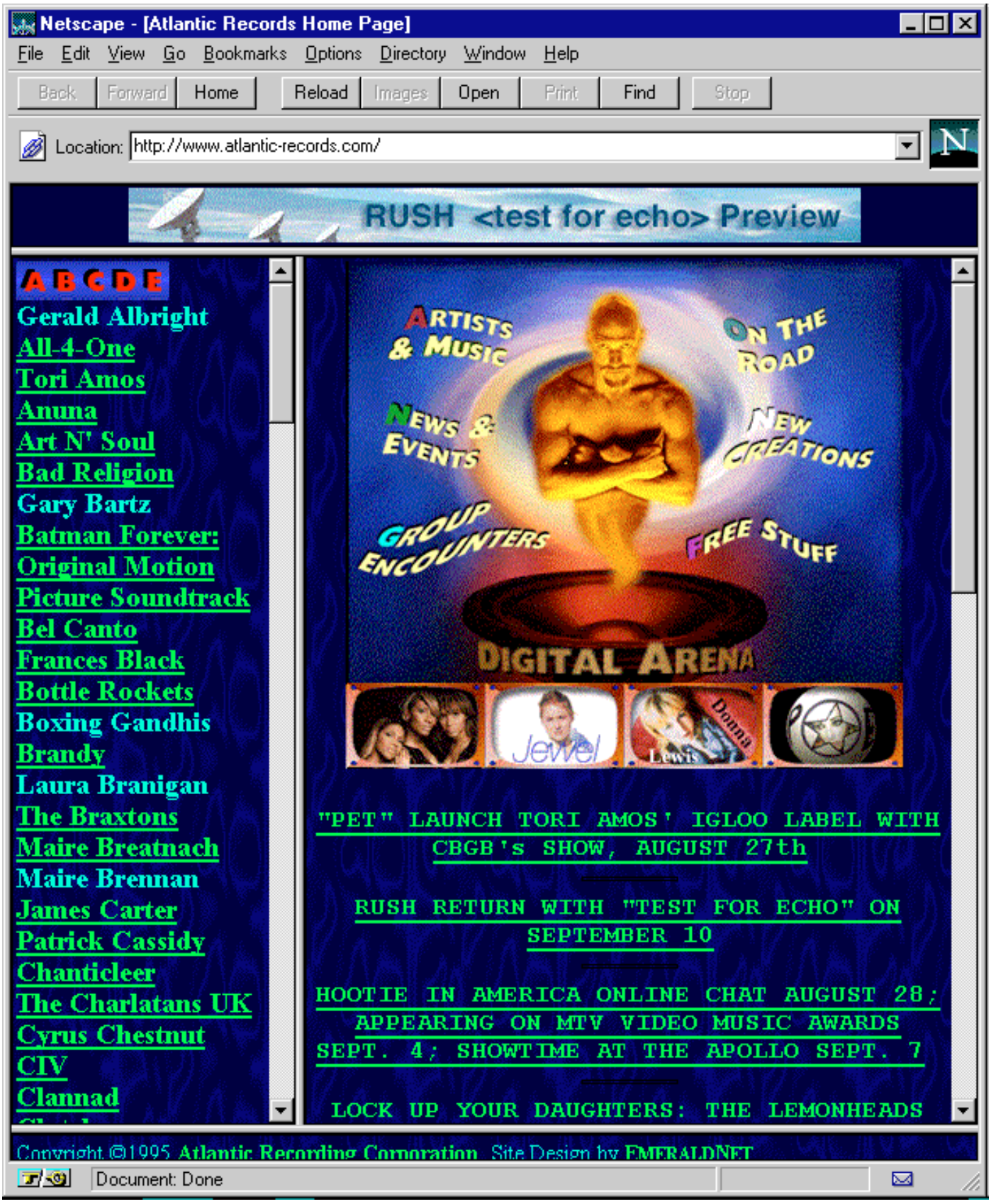
Example of a good page



Example of a good page

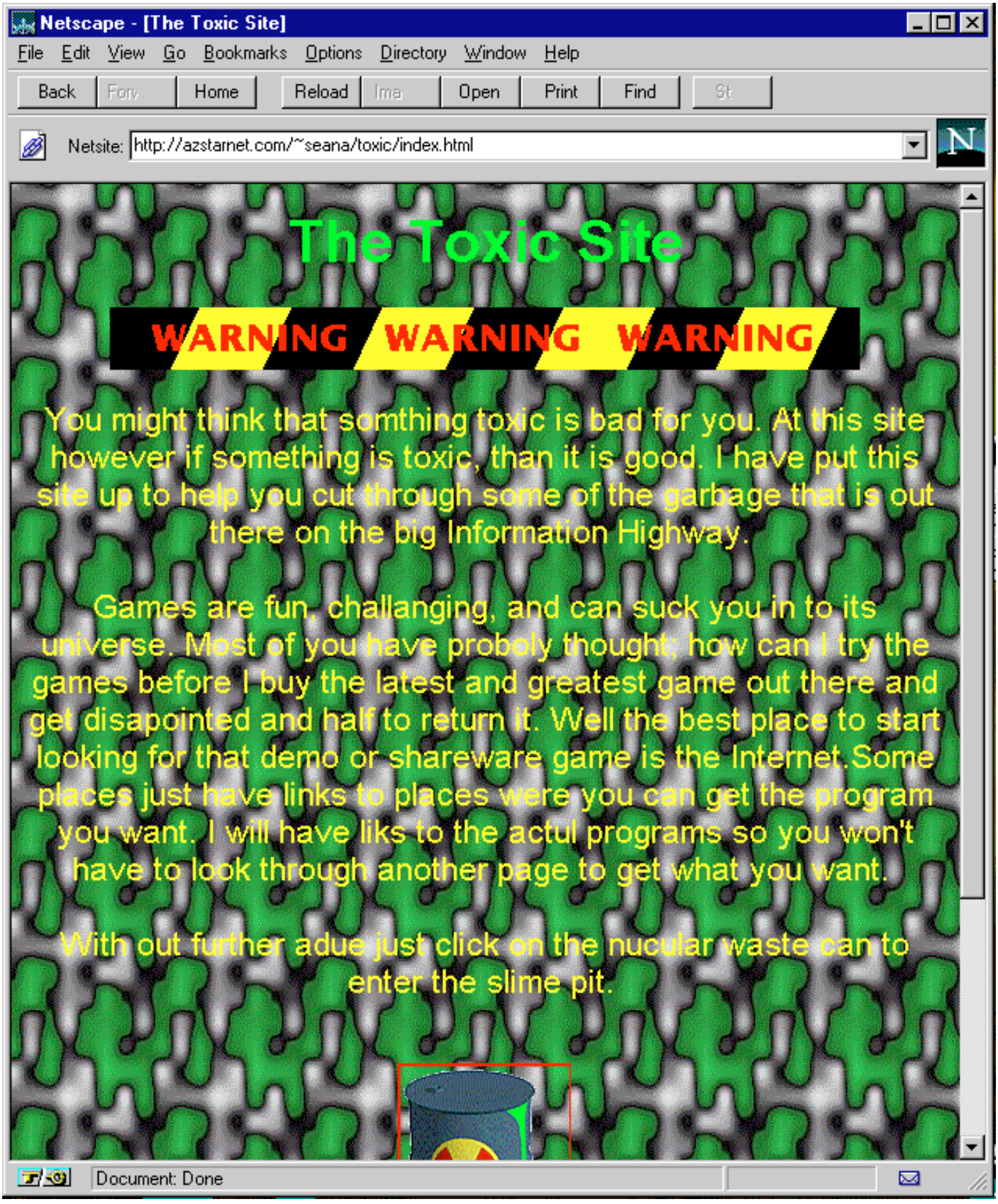


Example of a terrible page

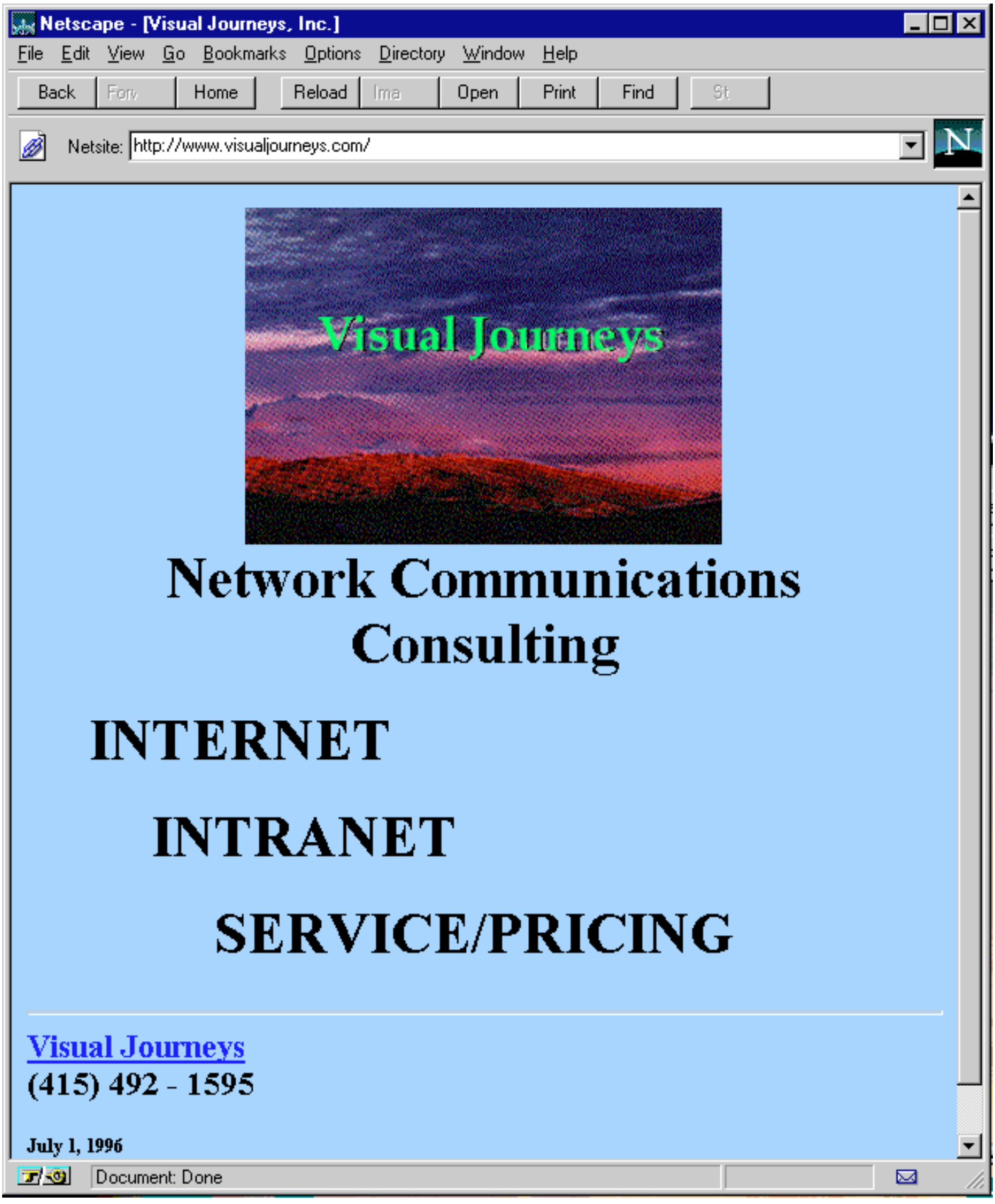


Example of a terrible page

Example of a terrible page



Example of a terrible page



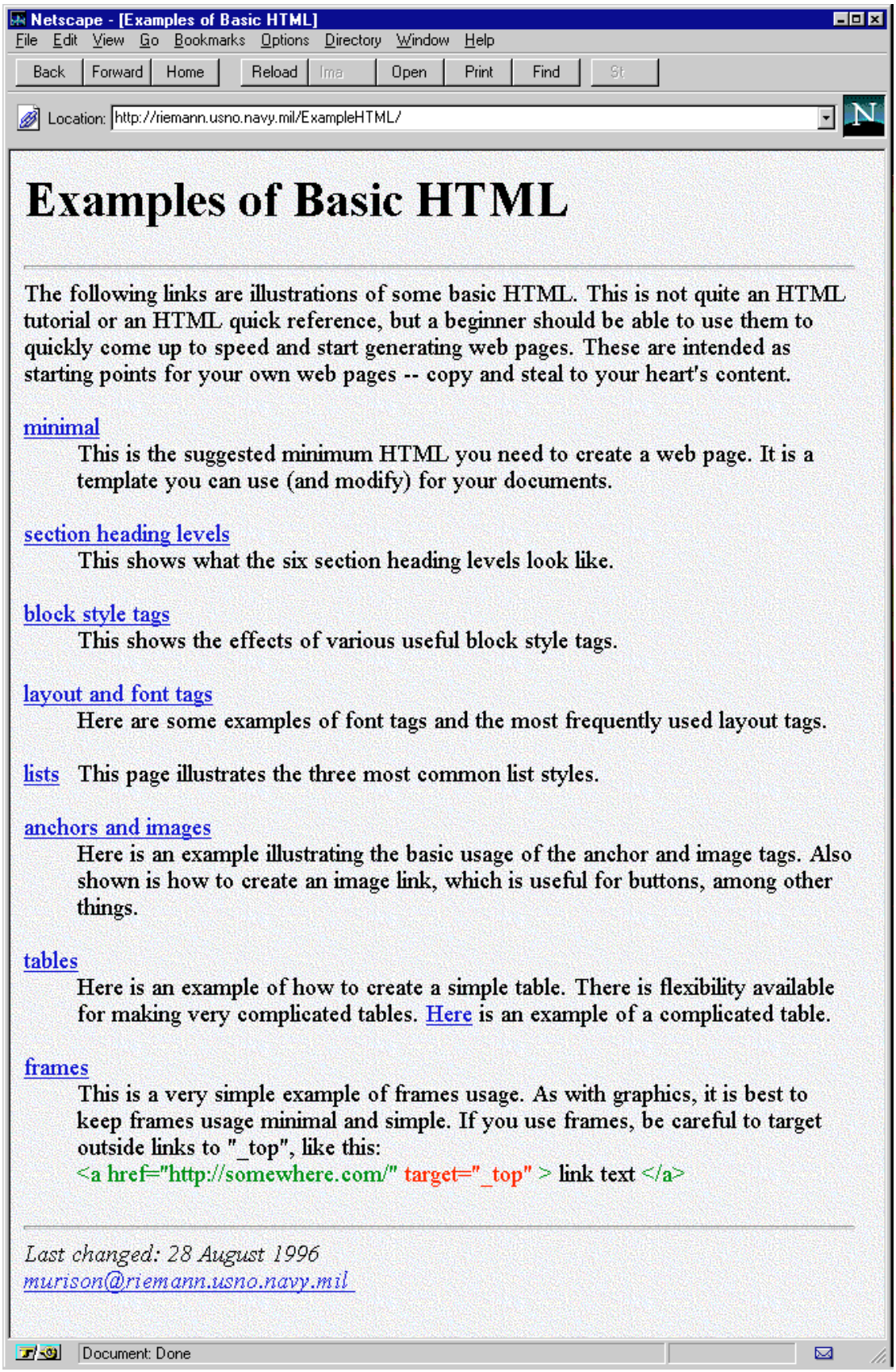
A Few Resources

- Introductory Documents
  - A Beginner's Guide to HTML
    - http://www.ncsa.uiuc.edu/demoweb/html-primer.html
  - How to Write HTML Files
    - http://www.ucc.ie/info/net/htmldoc.html
  - Introduction to HTML
    - http://melmac.harris-atd.com/about_html.html
- Style Guides
  - Composing Good HTML
    - http://www.willamette.edu/html-composition/strict-html.html
  - CERN's style guide for online hypertext
    - http://info.cern.ch/hypertext/WWW/Provider/Style/Introduction.html
- Reference Documents
  - The HTML Quick Reference Guide
    - http://kuhttp.cc.ukans.edu/lynx_help/HTML_quick.html
  - The Official HTML Specification
    - http://info.cern.ch/hypertext/WWW/MarkUp/MarkUp.html
  - HTML 2 Specification
    - http://www.w3.org/hypertext/WWW/MarkUp/HTML.html
  - A Description of SGML
    - http://info.cern.ch/hypertext/WWW/MarkUp/SGML.html
- Browser Information
  - Microsoft's Internet Explorer
    - http://www.microsoft.com/ie/msie.htm
  - Netscape
    - http://home.netscape.com
  - Mosaic
    - http://www.ncsa.uiuc.edu/SDG/Software/Mosaic
- Some additional useful places to find the above documents and learn more about HTML:
  - An amazing site with all the HTML documentation you could want!
    - http://www.gov.nb.ca/hotlist/htmldocs.htm
  - Guides and examples
    - http://www.physics.auburn.edu/html.html
  - http://www.dai.ed.ac.uk/html/
  - http://www.peinet.pe.ca:2080/1/HTML
  - http://www.sbcc.cc.ca.us/web/htmlinfo.html
  - http://www-star.stanford.edu/instructions.html
  - http://www.wsu.edu:8000/lsl.www.tech.res.html
  - http://www.utirc.utoronto.ca/HTMLdocs/NewHTML/bibliography.html
  - http://akebono.stanford.edu/yahoo/Computers/World_Wide_Web/HTML

Where to find these examples

The HTML files for the examples used in this tutorial are available on the web. Point your browser to:

http://riemann.usno.navy.mil/ExampleHTML/

The next page shows what you'll see.

Where to find these examples